

CLAIMS

1. Cargo deck for receiving a load in a cargo compartment (9) of an aircraft, comprising
 - 5 a plurality of ball mats (21), floor panels (22) or similar flat floor elements,
a plurality of roller conveyors or similar profile elements (23) mounted in the long direction of the aircraft and provided to accommodate transport rollers (43), PDUs (42), latches (44) or similar functional units for moving and fixing the load to the cargo deck, characterized in that
10 the floor elements (21, 22) at least in sections are fixedly connected to the profile elements (23) to form a deck section (20) that extends across the entire width of the cargo compartment (9), in such a way that longitudinal forces imposed on the deck section (20), in particular imposed by the load, oriented in the direction of an aircraft long axis and acting as shear forces in the surface direction of the cargo deck, can be transmitted to outer edges of the deck section (20) and can be dissipated from the outer edges to an outer skin (12) of the aircraft.
 - 15
 - 20
- 25 2. Cargo deck according to Claim 1, characterized in that the cargo deck is subdivided in the direction of its long axis into several deck sections (20), which are decoupled from one another with respect to the longitudinal forces.
- 30 3. Cargo deck according to one of the preceding claims, characterized by intermediate elements (50), which are connected on one hand to the outer edges of the deck section (20) and on the other hand to the outer skin (12) in order to transmit the longitudinal forces.
- 35

4. Cargo deck according to one of the preceding claims, in particular according to Claim 3, characterized in that the intermediate elements (50) are attached to the outer skin (12) between ribs (11).
5
5. Cargo deck according to one of the preceding claims, in particular according to Claim 3, characterized in that the intermediate elements (50) exhibit a stiffness that depends on the direction of a force, such that longitudinal forces are transmitted more strongly than forces in other directions.
10
6. Cargo deck according to one of the preceding claims, wherein the deck sections (20) comprise transverse beams (30) to form modules that can support heavy loads, characterized in that the deck sections (20) are attached to the intermediate elements (50) by way of the transverse beams (30).
15
20
7. Cargo deck according to one of the preceding claims, characterized in that the longitudinal forces can be dissipated to the outer skin (12) by insertion of at least end sections of transverse beams (30).
25
8. Cargo deck according to one of the preceding claims, characterized in that the intermediate elements (50) are attached in the region of end corners of the deck sections (20) and are short in relation to an overall length of the deck sections (20).
30
9. Cargo deck according to one of the preceding claims, in particular according to Claim 8, characterized in that at each deck section (20) two intermediate elements (50) are attached to the end corners of an edge of the deck
35

section (20) that extends perpendicular to the longitudinal direction.

- 5 10. Cargo deck according to one of the preceding claims, characterized in that the deck sections (20) comprise transverse beams (30) to form modules that can support heavy loads.
- 10 11. Cargo deck according to one of the preceding claims, in particular according to Claim 10, characterized in that the transverse beams (30) comprise supporting feet (31, 32) for attachment to ribs (11).
- 15 12. Cargo deck according to one of the preceding claims, in particular according to Claim 10, characterized in that each deck section (20) comprises a transverse beam (30), the ends of which are connected to the outer skin (12) for the transmission of longitudinal forces.
- 20 13. Cargo deck according to one of the preceding claims, characterized in that the deck sections (20) are attached at their side edges to longitudinal beams (35) for dissipating forces perpendicular to the long axis of the aircraft.
- 25 14. Cargo deck according to one of the preceding claims, in particular according to Claim 13, characterized in that the longitudinal beams (35) are attached to ribs (11) of the aircraft.
- 30 15. Cargo deck according to one of the preceding claims, in particular according to Claim 10, characterized in that the modules can be attached within the aircraft by means of rapid-closure elements (36, 36').